

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

AFFYMETRIX, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No. 07-670-JJF
	)	
ILLUMINA, INC.,	)	
	)	
Defendant.	)	
	)	

**ILLUMINA, INC.'S ANSWER AND COUNTERCLAIMS**

Defendant Illumina, Inc. ("Illumina") answers the Complaint filed by Plaintiff Affymetrix, Inc. ("Affymetrix") as follows:

**NATURE OF THE ACTION**

1. Illumina admits that this case purports to be an action for patent infringement, but denies that there is any basis for such an action.

**THE PARTIES**

2. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations of Paragraph 2.

3. Illumina admits that it is a corporation incorporated under the laws of the state of Delaware with its principal place of business at 9885 Towne Centre Drive, San Diego, California 92121. Illumina denies the remaining allegations of Paragraph 3.

**JURISDICTION AND VENUE**

4. Illumina admits that this case purports to be an action for patent infringement over which this Court has subject matter jurisdiction.

5. Illumina admits that it is subject to personal jurisdiction in this judicial district.

6. Illumina admits that venue is proper in this judicial district.

**BACKGROUND AND THE PATENTS-IN-SUIT**

7. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations of Paragraph 7.

8. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations of Paragraph 8.

9. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations of Paragraph 9.

10. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations of Paragraph 10.

11. With respect to the following subparts:

a. Illumina admits that U.S. Patent No. 5,902,723 (“the ‘723 patent”) is entitled “Analysis of surface immobilized polymers utilizing microfluorescence detection.” Illumina admits that the ‘723 patent indicates on its face that it was issued on May 11, 1999. Illumina denies that the ‘723 patent was properly issued and that it is valid. Illumina admits that Exhibit 1 appears to be a copy of the ‘723 patent, but lacks sufficient information to verify its authenticity.

b. Illumina admits that U.S. Patent No. 6,403,320 (“the ‘320 patent”) is entitled “Support bound probes and methods of analysis using the same.” Illumina admits that the ‘320 patent indicates on its face that it was issued on June 11, 2002. Illumina denies that the ‘320 patent was properly issued and that it is valid. Illumina admits that Exhibit 2 appears to be a copy of the ‘320 patent, but lacks sufficient information to verify its authenticity.

c. Illumina admits that U.S. Patent No. 6,420,169 (“the ‘169 patent”) is entitled “Apparatus for forming polynucleotides or polypeptides.” Illumina admits that the ‘169 patent indicates on its face that it was issued on July 16, 2002. Illumina denies that the ‘169 patent was properly issued and that it is valid. Illumina admits that Exhibit 3 appears to be a copy of the ‘169 patent, but lacks sufficient information to verify its authenticity.

d. Illumina admits that U.S. Patent No. 6,576,424 (“the ‘424 patent”) is entitled “Arrays and methods for detecting nucleic acids.” Illumina admits that the ‘424 patent indicates on its face that it was issued on June 10, 2003. Illumina denies that the ‘424 patent was properly issued and that it is valid. Illumina admits that Exhibit 4 appears to be a copy of the ‘424 patent, but lacks sufficient information to verify its authenticity.

e. Illumina admits that U.S. Patent No. 7,056,666 (“the ‘666 patent”) is entitled “Analysis of surface immobilized polymers utilizing microfluorescence detection.” Illumina admits that the ‘666 patent indicates on its face that it was issued on June 6, 2006. Illumina denies that the ‘666 patent was properly issued and that it is valid. Illumina admits that Exhibit 5 appears to be a copy of the ‘666 patent, but lacks sufficient information to verify its authenticity.

12. Illumina denies that the ‘723, ‘320, ‘169, ‘424, and ‘666 patents were duly issued. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies that the ‘723, ‘320, ‘169, ‘424, and ‘666 patents are owned by Affymetrix, and that Affymetrix has the full legal right to sue, enforce, and recover damages for all infringements of the ‘723, ‘320, ‘169, ‘424, and ‘666 patents.

**HISTORY BETWEEN THE PARTIES**

13. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations of Paragraph 13.

14. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations of Paragraph 14.

15. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the allegations in the first sentence of Paragraph 15. Illumina admits that it was founded on April 1, 1998 by several people, including Dr. Mark Chee. Illumina admits that Dr. Mark Chee, Dr. Kevin Gunderson and Dr. Jian-Bing Fan, among others, have been involved in the development of Illumina's microarray-based products and services. Illumina admits that it makes and sells microarray-based products and services. Illumina denies the remaining allegations in Paragraph 15.

16. Illumina admits that Mr. Jay Flatley was appointed the CEO of Illumina on October 1, 1999. Illumina lacks sufficient knowledge or information to determine the truth of, and therefore, denies the remaining allegations of Paragraph 16.

17. Illumina admits that it had communications with Affymetrix in 2002 regarding Affymetrix's patents and Illumina's technology. Illumina denies the remaining allegations in Paragraph 17.

18. Illumina admits that it had communications with Affymetrix in 2004 regarding Affymetrix's patents and Illumina's technology. Illumina denies the remaining allegations in Paragraph 18.

19. Illumina admits that Affymetrix filed a patent infringement suit against Illumina on July 26, 2004, in the United States District Court for the District of Delaware. Illumina

admits that on March 13, 2007, the jury returned a verdict finding infringement of five patents asserted by Affymetrix and awarded damages through 2005 at a royalty rate of 15% in an amount of approximately \$16.7 million, but that the verdict remains subject to post-trial motions, no judgment has been entered to date, and the Court has yet to consider the validity and enforceability of the five Affymetrix patents as well as Illumina's counterclaims. Illumina denies the remaining allegations in Paragraph 19.

20. Illumina admits that it announced a merger with Solexa, Inc. ("Solexa") in November, 2006. Illumina admits that it had communications with Affymetrix in 2006 regarding Affymetrix's patents, Illumina's technology, and Solexa's technology. Illumina denies the remaining allegations in Paragraph 20.

21. Illumina admits that Affymetrix had communications with Solexa in 2006 and 2007 regarding Affymetrix's patents and Solexa's technology. Illumina denies the remaining allegations in Paragraph 21.

**COUNT 1 ('723 PATENT)**

22. Illumina incorporates its responses to Paragraphs 1-21 above as if fully set forth herein.

23. Illumina admits that it makes, uses, offers for sale, and sells assays, products, software and associated instrumentation under the name BeadArray™ technology, including, but not limited to, the Infinium II® assay. Illumina denies the remaining allegations of Paragraph 23.

24. Denied.

25. Denied.

26. Denied.

**COUNT 2 ('320 PATENT)**

27. Illumina incorporates its responses to Paragraphs 1-21 above as if fully set forth herein.

28. Illumina admits that it makes, uses, offers for sale, and sells products and associated instrumentation under the name BeadArray™ technology, including, but not limited to, the Sentrix® Array Matrix and BeadChip arrays, the BeadArray Reader, and the detection instrument used to decode the BeadArray arrays. Illumina denies the remaining allegations of Paragraph 28.

29. Denied.

30. Denied.

31. Denied.

**COUNT 3 ('169 PATENT)**

32. Illumina incorporates its responses to Paragraphs 1-21 above as if fully set forth herein.

33. Illumina admits that it makes, uses, offers for sale, and sells products and associated software and instrumentation under the name Solexa Sequencing technology, including, but not limited to, the Genome Analyzer. Illumina denies the remaining allegations of Paragraph 33.

34. Denied.

35. Denied.

36. Denied.

**COUNT 4 ('424 PATENT)**

37. Illumina incorporates its responses to Paragraphs 1-21 above as if fully set forth herein.

38. Illumina admits that it makes, uses, offers for sale, and sells products and associated instrumentation under the name BeadArray™ technology, including, but not limited to, BeadArray arrays used with the Infinium I and II and Direct Hyb assays. Illumina denies the remaining allegations of Paragraph 38.

39. Denied.

40. Denied.

41. Denied.

**COUNT 5 ('666 PATENT)**

42. Illumina incorporates its responses to Paragraphs 1-21 above as if fully set forth herein.

43. Illumina admits that it makes, uses, offers for sale, and sells products and associated software and instrumentation under the name Solexa Sequencing technology, including, but not limited to, the Genome Analyzer. Illumina denies the remaining allegations of Paragraph 43.

44. Denied.

45. Denied.

46. Denied.

### **AFFIRMATIVE DEFENSES**

Illumina alleges and asserts the following defenses in response to the allegations in Affymetrix's Complaint:

#### **First Affirmative Defense (Noninfringement)**

47. Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that it does not infringe, directly, contributorily, or by inducement, any valid or enforceable claim of the '723, '320, '169, '424, and '666 patents.

#### **Second Affirmative Defense (Prosecution History Estoppel)**

48. To the extent Affymetrix attempts to assert infringement under the doctrine of equivalents, Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that arguments and amendments contained in the prosecution history will estop or bar any claims for alleged infringement of the '723, '320, '169, '424, and/or '666 patents.

#### **Third Affirmative Defense (Invalidity)**

49. Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that one or more of the claims of the '723, '320, '169, '424, and '666 patents are invalid for failure to comply with one or more of 35 U.S.C. §§ 102, 103 and 112.

#### **Fourth Affirmative Defense (Laches/Prosecution Laches/Estoppel)**

50. Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that any claims for alleged infringement of the '723, '320, '169, '424, and/or '666 patents are barred or limited by the doctrines of laches, prosecution laches and/or equitable estoppel.



**Fifth Affirmative Defense (Claim Preclusion)**

51. Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that any claims for alleged infringement of the '723, '320, '169, '424, and/or '666 patents are barred or limited by the doctrine of claim preclusion.

**Sixth Affirmative Defense (Issue Preclusion)**

52. Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that any claims for alleged infringement of the '723, '320, '169, '424, and/or '666 patents are barred or limited by the doctrine of issue preclusion.

**Seventh Affirmative Defense (Failure to Mark)**

53. Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that any claims for damages for alleged infringement of the '723, '320, '169, '424, and/or '666 patents are barred or limited due to failure to allege compliance with (and failure to comply with) the requirements of 35 U.S.C. § 287.

**Eighth Affirmative Defense (Adequate Remedy at Law)**

54. Illumina believes that, after a reasonable opportunity for further investigation or discovery, it will be able to demonstrate that any claims for injunctive relief are barred in light of the fact that Affymetrix has an adequate remedy at law.

**COUNTERCLAIMS**

Pursuant to Fed. R. Civ. P. 13, Illumina hereby asserts the following counterclaims:

**First Counterclaim**

**(Declaratory Judgment Regarding the '723 Patent)**

55. Illumina realleges and incorporates by reference the allegations contained in Paragraphs 1-54 of its Answer.

56. An actual controversy exists between Illumina and Affymetrix as to whether the '723 patent is invalid and not infringed by Illumina.

57. A judicial declaration is necessary and appropriate so that Illumina may ascertain its rights as to whether it infringes the '723 patent, and whether the '723 patent is invalid.

58. Illumina does not infringe, and has never infringed, any valid or enforceable claim of the '723 patent either directly, contributorily, or by inducement.

59. The '723 patent is invalid for failure to comply with at least one or more of 35 U.S.C. §§ 102, 103 and 112.

### **Second Counterclaim**

#### **(Declaratory Judgment Regarding the '320 Patent)**

60. Illumina realleges and incorporates by reference the allegations contained in Paragraphs 1-54 of its Answer.

61. An actual controversy exists between Illumina and Affymetrix as to whether the '320 patent is invalid and not infringed by Illumina.

62. A judicial declaration is necessary and appropriate so that Illumina may ascertain its rights as to whether it infringes the '320 patent, and whether the '320 patent is invalid.

63. Illumina does not infringe, and has never infringed, any valid or enforceable claim of the '320 patent either directly, contributorily, or by inducement.

64. The '320 patent is invalid for failure to comply with at least one or more of 35 U.S.C. §§ 102, 103 and 112.

### **Third Counterclaim**

#### **(Declaratory Judgment Regarding the '169 Patent)**

65. Illumina realleges and incorporates by reference the allegations contained in Paragraphs 1-54 of its Answer.

66. An actual controversy exists between Illumina and Affymetrix as to whether the '169 patent is invalid and not infringed by Illumina.

67. A judicial declaration is necessary and appropriate so that Illumina may ascertain its rights as to whether it infringes the '169 patent, and whether the '169 patent is invalid.

68. Illumina does not infringe, and has never infringed, any valid or enforceable claim of the '169 patent either directly, contributorily, or by inducement.

69. The '169 patent is invalid for failure to comply with at least one or more of 35 U.S.C. §§ 102, 103 and 112.

#### **Fourth Counterclaim**

##### **(Declaratory Judgment Regarding the '424 Patent)**

70. Illumina realleges and incorporates by reference the allegations contained in Paragraphs 1-54 of its Answer.

71. An actual controversy exists between Illumina and Affymetrix as to whether the '424 patent is invalid and not infringed by Illumina.

72. A judicial declaration is necessary and appropriate so that Illumina may ascertain its rights as to whether it infringes the '424 patent, and whether the '424 patent is invalid.

73. Illumina does not infringe, and has never infringed, any valid or enforceable claim of the '424 patent either directly, contributorily, or by inducement.

74. The '424 patent is invalid for failure to comply with at least one or more of 35 U.S.C. §§ 102, 103 and 112.

**Fifth Counterclaim**

**(Declaratory Judgment Regarding the '666 Patent)**

75. Illumina realleges and incorporates by reference the allegations contained in Paragraphs 1-54 of its Answer.

76. An actual controversy exists between Illumina and Affymetrix as to whether the '666 patent is invalid and not infringed by Illumina.

77. A judicial declaration is necessary and appropriate so that Illumina may ascertain its rights as to whether it infringes the '666 patent, and whether the '666 patent is invalid.

78. Illumina does not infringe, and has never infringed, any valid or enforceable claim of the '666 patent either directly, contributorily, or by inducement.

79. The '666 patent is invalid for failure to comply with at least one or more of 35 U.S.C. §§ 102, 103 and 112.

**PRAYER FOR RELIEF**

WHEREFORE, Illumina requests the following relief:

- A. Judgment declaring that Illumina has not infringed and will not infringe, directly or indirectly, any valid or enforceable claim of the '723 patent;
- B. Judgment declaring that the claims of the '723 patent are invalid;
- C. Judgment declaring that Illumina has not infringed and will not infringe, directly or indirectly, any valid or enforceable claim of the '320 patent;
- D. Judgment declaring that the claims of the '320 patent are invalid;
- E. Judgment declaring that Illumina has not infringed and will not infringe, directly or indirectly, any valid or enforceable claim of the '169 patent;
- F. Judgment declaring that the claims of the '169 patent are invalid;

G. Judgment declaring that Illumina has not infringed and will not infringe, directly or indirectly, any valid or enforceable claim of the '424 patent;

H. Judgment declaring that the claims of the '424 patent are invalid;

I. Judgment declaring that Illumina has not infringed and will not infringe, directly or indirectly, any valid or enforceable claim of the '666 patent;

J. Judgment declaring that the claims of the '666 patent are invalid;

K. A declaration that this case is exceptional within the meaning of 35 U.S.C. § 285 and an award of reasonable attorney fees and costs; and

L. Such other relief as the Court deems appropriate.

Dated: December 14, 2007

/s/ Richard K. Herrmann  
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